

'School of the Future' opens doors

First-of-its-kind school seeks to meet the needs of 21st-century learners

By Corey Murray, Senior Editor, eSchool News
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The School of the Future, the long-anticipated joint venture between software giant Microsoft Corp. and the School District of Philadelphia, held its first day of classes yesterday. Project organizers say the state-of-the-art facility is intended to serve as a model for other school districts as administrators seek to better meet the needs of 21st-century learners.

eSchool News was on location in Philadelphia Sept. 7 as students and teachers took to the halls to explore this technological marvel. The sprawling facility, situated in the traditionally low-income neighborhood of Fairmont Park, just a few blocks from the Philadelphia Zoo, will serve 170 freshman in 2006, adding a new class each year until it reaches its 750-student capacity in 2009.

More than simply building a school that would showcase technology for its own sake, project leaders sought to create a truly interactive learning environment that could tackle the unique needs of today's students.

"It's been a long three years, and we've learned a lot," said Mary Cullinane, Microsoft's lead on the project and one of the school's initial architects, in an interview with *eSchool News*. "We see this as a worldwide opportunity ... for both kids and educators to think differently about how we affect different learning environments."

Built on a budget of \$63 million and paid for out the school system's capital improvement budget, the school was designed not as a one-of-a-kind institution, but as a concept that could realistically be adapted and replicated by other school systems looking to better prepare their students for the challenges of the new global economy, Cullinane said. Rather than donate money to help build the school or supply equipment, Microsoft instead chose to donate human capital, assigning a team of educators and technologists to work in concert with the school system and the surrounding community to create a sustainable learning environment that could be expected to produce a more engaged, productive, and committed student body.

"As a company, Microsoft didn't simply want to cut the school district a check," explained Cullinane. Unlike other technology-laden urban charter schools, including the High-Tech High Schools now operating in cities such as San Diego and Los Angeles, the School of the Future isn't intended to stand alone as the envy of other institutions, she said; instead, by creating a general-enrollment school that is paid for, staffed, and operated by the public school system, project organizers aim to provide a model that is replicable--one that other school systems, regardless of socio-economic and geographic barriers, can learn from and imitate.

This was the message that pervaded the building as parents and students took to the school for the first time to meet with teachers and administrators. For many, the moment marked the start of a school year steeped in hope, pressure, and the highest of expectations.

"This is a very special moment ... it's a very special class," said Philadelphia Mayor John Street prior to welcoming students into the school.

Street called the School of the Future "the premiere institution of its kind anywhere in the country" and challenged the students as they walked through the doors for the first time to commit themselves fully to the opportunity before them. "There are no excuses," said Street as students entered the building for their first full day of classes.

"To whom much is given, much is expected," charged school district CEO Paul Vallas.

Perhaps nowhere is such an adage more appropriate. Not only will students enrolled in the School of the Future be expected to meet all of the usual standards of accountability and testing that their counterparts throughout the state are required to meet; they also will be the poster children for a new approach to learning, one that leverages technology and creative thinking to meet the demands of the 21st century.

Prescriptive learning

For administrators, the first step on that pathway to success will be to promote a new type of learning.

More than simply putting computers in classrooms, Microsoft's Cullinane says the School of the Future looks to apply technology prescriptively, complementing the individual learning habits of its students.

Apart from providing students with the latest in high-tech learning tools, including laptops, digital whiteboards, and campus-wide wireless access, Microsoft also has developed a suite of web-based tools designed to help educators meet the unique needs of each and every student.

One such innovation is the Virtual Teaching Assistant. Developed by Microsoft, this software program allows teachers to distribute ad-hoc assessments during class to gauge student progress more effectively. The assessments, given to each student during class via computer, are designed to allow teachers to work with students at their own pace.

Depending on how well each student performs on the assessment, teachers can choose to provide students with more advanced materials, or supply them with further remediation--all of which can be done anonymously, so slower learners don't have to suffer the embarrassment of being singled out in class, said Cullinane.

Looking to create a more engaging environment for students, the school also is equipped with several special learning rooms, including a state-of-the-art Interactive Learning Center that includes access to streaming media and video. By using video conferencing and other technologies, educators hope to connect students with outside experts and professionals who can help them understand their various fields of study--and make more informed decisions about what careers they might pursue after high school.

Accessible to students via laptop from anywhere in the building and, in many cases, from home, the Interactive Learning Center provides an open pipeline for students to their schoolwork and includes access to other resources, too, including a virtual encyclopedia and a customizable learning portal, which enables each student to configure his or her desktop to display information relevant to his or her particular course load.

A lesson in philosophy

Though the building's name--School of the Future--no doubt conjures

up images of students pecking away on laptop computers and classrooms stocked with the most modern of learning amenities, from digital whiteboards and online learning portals, to streaming video piped into every classroom, administrators say the real victory for Microsoft and the school district isn't in the technology itself, but in the approach educators and students involved in the project take to learning.

While technology no doubt will play a central role in all that students see and do, Shirley Grover, the school's top administrator, says the real challenge for the School of the Future lies not in using the latest solutions, but in leveraging the resources available throughout the school to improve student learning.

Opting to shed the traditional title of principal, Grover refers to herself as "chief learner" and says she demands that every educator on her staff adopt a similar philosophy of life-long learning, wherein teachers become partners with their students, working together as a team to solve complex problems and build lasting relationships.

Building on this subtle change in philosophy, project developers have equipped classrooms with a variety of tools designed to give teachers more control over how they use their environments. To promote a culture of teamwork and project-based learning, each classroom is equipped with desks that can be easily moved and rearranged to create customized learning spaces, where students can work together in groups or come together as a class to review key concepts. The school's auditorium provides a similarly adaptable space. Built on hydraulic lifts, the space can be mechanically adjusted to provide additional learning spaces for students and teachers.

Operating under the assumption that any school, no matter how advanced, is only as good as the teachers who staff its classrooms each day, the School of the Future encourages collaboration and teamwork among educators and students alike by providing controlled access to communications tools such as instant-messaging and personal eMail accounts.

Administrators also have integrated a specially designed Education Competency Wheel to help them better match educators with assignments suited to their individual strengths and talents (see story: <http://www.eschoolnews.com/news/showStory.cfm?ArticleID=6493>).

A technological marvel

But it isn't just the teachers and administrators who will be working smarter.

Project developers integrated technology into every aspect of the building's design, using innovations and new developments in structural efficiency to help the school system better maintain the facility for years to come. Aside from simply helping students learn more effectively, architects said, technology also can be used to aid in building upkeep and energy consumption. Together, they say, these two variables can siphon millions of dollars a year from the operating budgets of large metropolitan school systems.

To cut down on these costs, the School of the Future was built to LEEDS standards. Established by the United States Green Building Council, LEEDS, or the Leadership in Energy and Environmental Design Rating System, is a voluntary national standard in which construction and renovation projects earn credits toward certification as sustainable buildings. The standard considers aspects of new building construction and existing building upgrades and maintenance that include building materials, energy use, land use, facility and waste management, and water use (see story: <http://www.eschoolnews.com/news/showStory.cfm?ArticleID=5922>).

As energy prices continue to soar, school administrators say, one way to keep costs down is to build smarter. Among the many "smart" features presently at work in the School of the Future are a water "catchment" system that stores and reuses rainwater in working toilets, a solar energy system for capturing sunlight and transforming it into usable energy, and a unique cooling system that stores air on cool days and reuses it to cut down on the rising cost of air conditioning during warmer ones.

Looking to improve efficiencies and further surround students with the types of technologies they're likely to encounter in the workforce of tomorrow, the school also has supplied every student with his or her own personal smartcard. Like interactive ID badges, the cards will be used throughout the building to do everything from check out library books and pay for school lunches, to open students' lockers.

Ensuring that students' access to technology doesn't end when the bell rings, each learner also is provided with a broadband internet connection so he or she can access learning materials stored on school servers from home.

Conjuring up images of innovation from years past, Jim Nevels, chairman of the city's School Reform Commission, compared the School of the Future to the World's Fair. He talked about the famous Machinery Hall, an exhibit that once stood a few short blocks from where the school building stands now, and how famous inventors and technologists debuted innovations--from the telephone to the printing press--that one day would change the world.

Branding the school "a 21st-century laboratory of innovation," Nevels said the School the Future would be a place where students and teachers would be encouraged to explore the innovations of tomorrow.

"The School of the Future is smart, smart, smart," he said.

High expectations

Chief Learner Grover said she hopes the School of the Future will serve as a springboard for Philadelphia's students as they seek "to take their place on the world's stage."

"It is what you learn and what you hope that really matters," she said in her first address to students on opening day. "You have one life; do it for yourself. Believe in your abilities to get better each and every day."

Students don't have a choice--not if they want to succeed here. As a prerequisite to attending the school, Grover said, every student is required to apply to college upon graduation.

Craig Mundie, one of two Microsoft executives tapped by outgoing chairman Bill Gates to succeed him when he leaves the company to work full-time at his foundation, said Microsoft and other corporations have a vested interest in seeing the school succeed--not simply because the company's name is tied to the building, but because its students likely will be among the ones to help high-tech companies like Microsoft and others achieve success in the years to come.

"At the end of the day, we have a vested interest in making sure education happens effectively, every day," he said. The goal is to be competitive not in the world of the past, "but in the world of the future."

Even still, administrators and stakeholders stopped short of proclaiming the School of the Future an instant success.

"This is truly a work in progress," noted Microsoft's Cullinane. "By no means does Sept. 7 mark the end of this journey."

Despite all the hard work, she said, supporters of the project won't know for sure whether their investment is paying dividends until the first batch of test scores come out next year.

"That will be this school's legacy," wrote Cullinane in her blog about her experience in Philadelphia. "Not the computers, not the software, not the technology. It will be a passion for learning found in the hearts and minds of every teacher and student who walks the hallways. That's what I hope for this school."

Mayor Street believes his city's schoolchildren are up to the task.

"If you give young people a fair chance--if you give them the equipment and the tools that they need," explained Street to a crowd of reporters and parents gathered outside the gates, "they can, and will, succeed."

(Editor's note: To watch video interviews with Microsoft's Cullinane, school district CEO Paul Vallas, and other key people who were instrumental to the School of the Future and its development, check back at eSchool News Online next week.)

Links:

School of the Future

<http://www.microsoft.com/education/schooloffuture.mspix>

Mary Cullinane's blog

<http://www.microsoft.com/Education/SchoolofFutureProcess.mspix#E2B>

School District of Philadelphia

<http://www.phila.k12.pa.us>

Microsoft Corp.

<http://www.microsoft.com>



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